

## Method for forming Ferroelectric Memory Capacitor

### ABSTRACT OF THE INVENTION

A ferroelectric memory capacitor is formed by forming  
5 a barrier layer, a first metal layer, a ferroelectric  
layer, a second metal layer, and a hard mask layer, on  
dielectric layer (70). Using the patterned hard mask layer  
(255), the layers are etched to form an etched barrier  
layer (205), and etched first metal layer (215), and etched  
10 ferroelectric layer (225), and etched second metal layers  
(235, 245). The etched layers form a ferroelectric memory  
capacitor (270) with sidewalls that form an angle with the  
plane of the upper surface of the dielectric layer (70)  
between 78° and 88°. The processes used to etch the layers  
15 are plasma processes performed at temperatures between 200°C  
and 500°C.